

IP-427

S-E-C-R-E-T

CENTRAL INTELLIGENCE AGENCY  
Office of the Chief, Economic Research  
Office of Research and Reports

Project Action Memorandum

Project No. 20.1030  
Date: 20 January 1956

TITLE: Free World versus Sino-Soviet Bloc Energy Availability

REQUESTER: DCI

STATEMENT OF THE PROBLEM AND TERMS OF REFERENCE:

Problem: To compare energy availability in the US and USSR and in the Free World and Sino-Soviet Bloc, stressing relative rates of growth.

Terms of Reference: The project will result in a memorandum to the DCI with accompanying page-size charts.

RESPONSIBILITY:

|                                      | <u>Man-hours</u> | <u>Due Dates</u> | <u>Concurrence (Initials)</u> |
|--------------------------------------|------------------|------------------|-------------------------------|
| <u>Action Division:</u> D/I          |                  | 25 Jan 56        | TH                            |
| <u>Branches:</u> M/P                 | 100              |                  |                               |
| M/P                                  | 75               | 24 Jan 56        |                               |
| M                                    | 75               | 24 Jan 56        |                               |
| <u>Staff:</u> ST ER                  |                  |                  | RA                            |
| <u>Principal Analyst:</u> [REDACTED] | x3843            |                  |                               |
| <u>Project Monitor:</u> [REDACTED]   | x2803            |                  |                               |

This project will delay completion of Projects 25.676, 25.683 and 10.803 by one week each.

The classification of this project will be no higher than SECRET.

APPROVED E. La Ch/E

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Table 1. Primary Energy Production for Selected Years and Growth Rates for Selected Periods  
Sino-Soviet Bloc VS. Free World by Principal Regions and Categories

Trillions of BTU (1940-1960)

| Item No.   | Region and Category         | 1940 Production | 1946 Production | Aver. Ann. Growth, % 1941-46 | 1950 Production | Aver. Ann. Growth, % 1947-50 | 1955 Production | Aver. Ann. Growth, % 1951-55 | 1960 Production (Plan or Forecast) | Aver. Ann. Growth, % 1956-60 |
|--|-----------------------------|-----------------|-----------------|------------------------------|-----------------|------------------------------|-----------------|------------------------------|------------------------------------|------------------------------|
| <b>I Sino-Soviet Bloc</b>  |                             |                 |                 |                              |                 |                              |                 |                              |                                    |                              |
| 1.   | USSR - Total                | 7,016           | 6,198           | -2.1                         | 9,693           | 11.8                         | 13,760          | 7.3                          | 22,610                             | 10.4                         |
| a.   | Solid fuels                 | 5,510           | 5,080           | -1.4                         | 7,770           | 11.2                         | 10,230          | 5.7                          | 15,030                             | 8.0                          |
| b.   | Oil and gas                 | 1,490           | 1,100           | -4.9                         | 1,880           | 15.0                         | 3,450           | 12.9                         | 7,380                              | 16.4                         |
| c.   | Hydroelectric power         | 16              | 18              | 2                            | 43              | 22                           | 80              | 13.2                         | 200                                | 20.2                         |
| 2.   | European Satellites - Total | 5,304           | 3,803           | -5.4                         | 5,383           | 9.1                          | 7,604           | 7.1                          | 9,930                              | 5.5                          |
| a.   | Solid fuels                 | 4,960           | 3,450           | -5.9                         | 4,930           | 9.3                          | 6,660           | 6.2                          | 8,750                              | 5.6                          |
| b.   | Oil and gas                 | 340             | 346             | 0.3                          | 446             | 6.6                          | 930             | 15.8                         | 1,160                              | 4.5                          |
| c.   | Hydroelectric power         | 4               | 7               | 10                           | 7               | 0                            | 14              | 15                           | 20                                 | 7.4                          |
| 3.   | Communist China b/          | 1,500           | 579             | -14.7                        | 1,244           | 21.1                         | 2,476           | 14.8                         | 3,820                              | 9.1                          |
| a.   | Solid fuels                 | 1,490           | 560             | -15.0                        | 1,220           | 21.5                         | 2,440           | 14.9                         | 3,700                              | 8.7                          |
| b.   | Oil and gas                 | 10              | 19              | 7                            | 20              | 7                            | 16              | 4                            | 50                                 | 28.5                         |
| c.   | Hydroelectric power         | 10              | 15              | 7                            | 20              | 7                            | 16              | 4                            | 50                                 | 26                           |
| 4.   | Sino-Soviet Bloc - Total    | 13,820          | 10,580          | -4.4                         | 16,320          | 11.4                         | 23,840          | 7.9                          | 36,360                             | 8.8                          |
| a.   | Solid fuels                 | 11,960          | 9,090           | -4.5                         | 13,920          | 11.2                         | 19,330          | 6.8                          | 27,480                             | 7.3                          |
| b.   | Oil and gas                 | 1,830           | 1,450           | -3.2                         | 2,330           | 12.6                         | 4,400           | 13.5                         | 8,610                              | 14.4                         |
| c.   | Hydroelectric power         | 30              | 40              | 5                            | 70              | 15                           | 110             | 9.5                          | 270                                | 19.7                         |
| <b>II Free World</b>   |                             |                 |                 |                              |                 |                              |                 |                              |                                    |                              |
| 1.   | US - Total                  | 24,810          | 31,210          | 3.9                          | 34,320          | 2.4                          | 38,520          | 2.3                          | 44,900                             | 3.1                          |
| a.   | Solid fuels                 | 13,580          | 15,810          | 2.6                          | 14,860          | -1.5                         | 13,020          | -2.6                         | 14,020                             | 1.5                          |
| b.   | Oil and gas                 | 11,020          | 15,080          | 5.4                          | 19,070          | 6.0                          | 25,050          | 5.6                          | 30,400                             | 3.9                          |
| c.   | Hydroelectric power         | 210             | 320             | 7.3                          | 390             | 5.1                          | 450             | 2.9                          | 480                                | 1.3                          |
| 2.   | Free World less US - Total  | 24,000          | 21,400          | -1.9                         | 29,310          | 8.2                          | 36,760          | 4.6                          | 45,620                             | 4.4                          |
| a.   | Solid fuels                 | 20,220          | 15,750          | -4.1                         | 19,060          | 4.9                          | 20,210          | 1.2                          | 21,350                             | 1.1                          |
| b.   | Oil and gas                 | 3,330           | 5,190           | 7.7                          | 9,580           | 16.6                         | 15,490          | 10.1                         | 22,700                             | 7.9                          |
| c.   | Hydroelectric power         | 450             | 460             | 0.4                          | 670             | 9.9                          | 1,060           | 9.6                          | 1,570                              | 8.2                          |
| 3.   | Free World - Total          | 48,810          | 52,610          | 1.3                          | 63,630          | 4.9                          | 75,280          | 3.4                          | 90,520                             | 3.8                          |
| a.   | Solid fuels                 | 33,800          | 31,560          | -1.1                         | 33,920          | 1.8                          | 33,230          | -0.4                         | 35,370                             | 1.3                          |
| b.   | Oil and gas                 | 14,350          | 20,270          | 5.9                          | 28,650          | 9.0                          | 40,540          | 7.2                          | 53,100                             | 5.5                          |
| c.   | Hydroelectric power         | 660             | 780             | 2.8                          | 1,060           | 8.0                          | 1,510           | 7.3                          | 2,050                              | 6.3                          |
| <b>III Relationships in the Production of Primary Energy (Percent)</b> |                             |                 |                 |                              |                 |                              |                 |                              |                                    |                              |
| 1.   | Sino-Soviet Bloc/Free World | 28.3            | 20.1            |                              | 25.6            |                              | 31.7            |                              | 40.2                               |                              |
| 2.   | USSR/US                     | 28.3            | 19.9            |                              | 28.2            |                              | 35.7            |                              | 50.4                               |                              |

a. For 1940 and 1946, data cover same countries as in 1950, 1955 and 1960.

b. Includes North Korea, Outer Mongolia and Viet Minh.

c. Less than 0.5 trillion BTU.

d. Not computed.

~~8 February 1956~~

The USSR is <sup>just</sup> beginning to utilize natural <sup>gas</sup> produced with ~~petroleum~~ <sup>oil</sup> rather than waste it. The Sixth Five-Year Plan calls for increasing natural gas production from 8.1 million metric tons in 1955 ~~11 percent of liquid~~ ~~petroleum production~~ to 32 million metric tons in 1960 -- <sup>equivalent to</sup> ~~equal to~~ one quarter of <sup>crude oil</sup> ~~liquid petroleum~~ production. In contrast, US natural gas production was 200 million metric tons in 1955 -- <sup>equivalent to</sup> ~~over half~~ ~~liquid petroleum~~ production. ~~crude oil~~

|  |  |          |                 |                   |  |
|--|--|----------|-----------------|-------------------|--|
| TRANSMITTAL SLIP   |  |          | DATE: 25 Jan 56 |                   |  |
| TO: [REDACTED]   |  |          |                 |                   |  |
| ROOM NO.   |  | BUILDING |                 |                   |  |
| REMARKS:<br>Attached are 3 copies<br>of "Energy Availability"<br>draft.<br>Graphics should be<br>completed tomorrow. |  |          |                 |                   |  |
| FROM: [REDACTED]   |  |          |                 |                   |  |
| ROOM NO.   |  | BUILDING |                 | EXTENSION<br>3011 |  |

STATINTL

STATINTL

FORM NO. 241  
1 FEB 55

REPLACES FORM 36-8  
WHICH MAY BE USED.

(47)

A significant difference between the US and USSR is in the relative production for use of natural gas. In both countries large quantities of natural gas are withdrawn from underground deposits in the production of oil. In the US nearly all of this gas is now conserved and utilized while in the USSR nearly all of it is wasted. For example in 1955 the <sup>production</sup> ratio of natural gas to oil (including natural gas liquids) was 200/365 or 0.55, in the US, while in the USSR this ratio was 8.1/70 or 0.116. The USSR 6th. FY Plan calls for a very large increase in natural gas production, from 8.1 million tons in 1955 to 34 million metric tons in 1960. This can only be accomplished if <sup>the</sup> very extensive natural gas trunk lines planned, are actually built.

$$\begin{array}{r}
 32 \\
 \hline
 135 \overline{) 3200} \\
 \underline{270} \phantom{00} \\
 500 \phantom{00} \\
 \underline{505} \phantom{00} \\
 9500 \\
 \underline{945} \phantom{00} \\
 50
 \end{array}$$

$$\begin{array}{r}
 237 \\
 \hline
 32 \overline{) 3200} \\
 \underline{270} \phantom{00} \\
 500 \phantom{00} \\
 \underline{505} \phantom{00} \\
 9500 \\
 \underline{945} \phantom{00} \\
 50
 \end{array}$$

$$\begin{array}{r}
 46 \\
 \hline
 8.1 \overline{) 365} \\
 \underline{64} \phantom{00} \\
 68 \\
 \underline{64} \phantom{00} \\
 44
 \end{array}$$

$$\begin{array}{r}
 55.04 \\
 \hline
 4.1 \overline{) 226.4} \\
 \underline{16.6} \phantom{00} \\
 59.8 \\
 \underline{54.4} \phantom{00} \\
 5.4
 \end{array}$$